CPC COOPERATIVE PATENT CLASSIFICATION

C08B POLYSACCHARIDES; DERIVATIVES THEREOF (polysaccharides containing less than six saccharide radicals attached to each other by glycosidic linkages C07H; fermentation or enzyme-using processes C12P 19/00; sugar industry C13; production of cellulose D21)

WARNING

[1202]
The following IPC groups are not used in the internal ECLA classification scheme. Subject matter covered by these groups is classified in the following ECLA groups:

- C08B 37/06 covered by C08B 37/0045- C08B 37/10 covered by C08B 37/0075- C08B 37/12 covered by C08B 37/0039

Preparation

C08B 1/00 **Preparatory treatment of cellulose for making derivatives thereof, [N. e.g. pre-treatment, pre-soaking, activation]**

C08B 1/003 . { Preparation of cellulose solutions, i.e. dopes, with different possible solvents, e.g. ionic liquids (solutions used in the manufacture of monocomponent artificial filaments or cellulose or derivatives thereof D01F 2/02)}

C08B 1/006 . {Preparation of cuprammonium cellulose solutions}

C08B 1/02 . Rendering cellulose suitable for esterification {(esterification per se, C08B 3/00, C08B 5/00, C08B 7/00 or C08B 9/00)}

C08B 1/04 . . for the preparation of cellulose nitrate

C08B 1/06 . Rendering cellulose suitable for etherification {(etherification per se C08B 11/00)}

C08B 1/08 . Alkali cellulose

C08B 1/10 . . Apparatus for the preparation of alkali cellulose

C08B 1/12 . . . Steeping devices

C08B 1/14 . . . Ripening devices

C08B 3/00 **Preparation of cellulose esters of organic acids** {(rendering cellulose suitable for esterification C08B 1/02)}

C08B 3/02 . Catalysts used for the esterification

C08B 3/04 . Cellulose formate

C08B 3/06 . Cellulose acetate, [N : e.g. mono-acetate, di-acetate or tri-acetate]

C08B 3/08 . of monobasic organic acids with 3 or more carbon atoms, { e.g. propionate or butyrate}

C08B 3/10 . . with five or more carbon-atoms, { e.g. valerate}

C08B 3/12 . of polybasic organic acids

C08B 3/14 . in which the organic acid residue contains substituents, e.g. NH2, Cl

C08B 3/16 . Preparation of mixed organic cellulose esters, { e.g. cellulose aceto-formate or cellulose aceto-propionate}

C08B 3/18 . . Aceto-butyrates

C08B 3/20 . Esterification with maintenance of the fibrous structure of the cellulose (surface esterification of textiles D06M 13/00)

C08B 3/22 . Post-esterification treatments, including purification

C08B 3/24 . . Hydrolysis or ripening

C08B 3/26 . . Isolation of the cellulose ester

C08B 3/28 . . . by precipitation

C08B 3/30 . . Stabilising (by addition of stabilisers C08K)

C08B 5/00 **Preparation of cellulose esters of inorganic acids,** { e.g. phosphates (rendering cellulose suitable for esterification C08B 1/02)}

C08B 5/02 . Cellulose nitrate, { i.e. nitrocellulose (rendering cellulose suitable for the preparation of cellulose nitrate C08B 1/04)}

C08B 5/04 . . Post-esterification treatments, { e.g. densification of powders}, including purification

C08B 5/06 . . . Isolation of the cellulose nitrate

C08B 5/08 . . . Stabilisation (by addition of stabilisers C08K); { Post-treatment, e.g. phlegmatisation}

C08B 5/10 . . . Reducing the viscosity

C08B 5/12 . . . Replacing the water by organic liquids

C08B 5/14 . Cellulose sulfate

C08B 7/00 **Preparation of cellulose esters of both organic and inorganic acids** {(rendering cellulose suitable for esterification C08B 1/02)}

C08B 9/00 **Cellulose xanthate; Viscose** {(formation of films C08J 5/18; formation of fibres D01F; rendering cellulose suitable for esterification C08B 1/02)}

C08B 9/02 . Sulfidisers; Dissolvers

C08B 9/04 . Continuous processes

C08B 9/06 . Single-stage processes

C08B 11/00 **Preparation of cellulose ethers** {(rendering cellulose suitable for etherification C08B 1/06)}

C08B 11/02 . Alkyl or cycloalkyl ethers
C08B 11/04 . . with substituted hydrocarbon radicals
C08B 11/06 . . . with halogen-substituted hydrocarbon radials
C08B 11/08 . . . with hydroxylated hydrocarbon radicals; Esters, ethers, or acetals thereof
C08B 11/10 . . . substituted with acid radicals
C08B 11/12 . . . . substituted with carboxylic radicals, { e.g. carboxymethylcellulose (CMC)}
C08B 11/14 . . . with nitrogen-containing groups
C08B 11/145 . . . . with basic nitrogen, e.g. aminoalkyl ethers
C08B 11/15 . . . . with carbamoyl groups, { i.e. -CO-NH2}
C08B 11/155 . . . . with cyano groups, e.g. cyanoalkyl ethers

C08B 11/16 . Aryl or aralkyl ethers
C08B 11/18 . . with substituted hydrocarbon radicals

C08B 11/187 . with olefinic unsaturated groups

C08B 11/193 . Mixed ethers, i.e. ethers with two or more different etherifying groups

C08B 11/20 . Post-etherification treatments of chemical or physical type, { e.g. mixed etherification in two steps}, including purification
C08B 11/22 . . Isolation

C08B 13/00 **Preparation of cellulose ether-esters**

C08B 13/02 . Cellulose ether xanthates

C08B 15/00 **Preparation of other cellulose derivatives or modified cellulose,** { e.g. complexes}

C08B 15/005 . {Crosslinking of cellulose derivatives}

C08B 15/02 . Oxy-cellulose; Hydrocellulose; Cellulosehydrate [N : e.g. microcrystalline cellulose]
C08B 15/04 . . Carboxycellulose, e.g. prepared by oxidation with nitrogen dioxide

C08B 15/05 . Derivatives containing elements other than carbon, hydrogen, oxygen, halogens or sulfur (esters or phosphorous acids C08B 5/00)
C08B 15/06 . . containing nitrogen, { e.g. carbamates}

C08B 15/08 . Fractionation of cellulose, e.g. separation of cellulose crystallites

C08B 15/10 . Crosslinking of cellulose

C08B 16/00 **Regeneration of cellulose**

C08B 17/00 **Apparatus for esterification or etherification of cellulose**

C08B 17/02 . for making organic esters of cellulose

C08B 17/04 . for making cellulose nitrate

C08B 17/06 . for making cellulose ethers

C08B 30/00 **Preparation of starch, degraded or non-chemically modified starch, amylose, or amylopectin**

C08B 30/02 . Preparatory treatment, e.g. crushing of raw materials { or steeping process}(machines for preliminary washing A23N)]

C08B 30/04 . Extraction or purification

C08B 30/042 . . from cereals or grains

C08B 30/044 . . . from corn or maize

C08B 30/046 . . . from wheat

C08B 30/048 . . from potatoes

C08B 30/06 . Drying; Forming

C08B 30/08 . Concentration of starch suspensions

C08B 30/10 . Working-up residues from the starch extraction, { e.g. potato peel or steeping water}, including pressing water from the starch-extracted material

C08B 30/12 . Degraded, { destructured} or non-chemically modified starch { e.g. mechanically, enzymatically or by irradiation; Bleaching of starch (preparation of chemical derivatives of starch C08B 31/00)}

C08B 30/14 . . Cold water dispersible or pregelatinised starch

C08B 30/16 . . Apparatus therefor

C08B 30/18 . . Dextrin, { e.g. yellow canari, white dextrin, amylodextrin or maltodextrin; Methods of depolymerisation, e.g. by irradiation or mechanically}

C08B 30/20 . Amylose or amylopectin (chemical derivatives thereof C08B 33/00, C08B 35/00)

C08B 31/00 **Preparation of derivatives of starch** (derivatives of amylose C08B 33/00; derivatives of amylopectin C08B 35/00)

C08B 31/003 . {Crosslinking of starch}

C08B 31/006 . . {Crosslinking of derivatives of starch}

C08B 31/02 . Esters

C08B 31/04 . . of organic acids, { e.g. alkenyl-succinated starch}

C08B 31/06 . . of inorganic acids

C08B 31/063 . . . {Starch sulfates}

C08B 31/066 . . . { Starch phosphates, e.g. phosphorylated starch}

C08B 31/08 . Ethers

C08B 31/10 . . Alkyl or cycloalkyl ethers

C08B 31/12 . . having alkyl or cycloalkyl radicals substituted by heteroatoms, { e.g. hydroxyalkyl or carboxyalkyl starch}

C08B 31/125 . . . { having a substitutent containing at least one nitrogen atom, e.g. cationic starch}

C08B 31/14 . . Aryl or aralkyl ethers

C08B 31/16 . Ether-esters

C08B 31/18 . Oxidised starch

C08B 31/185 . . { Derivatives of oxidised starch, e.g. crosslinked oxidised starch}

C08B 33/00 **Preparation of derivatives of amylose**

C08B 33/02 . Esters

C08B 33/04 . Ethers

C08B 33/06 . Ether-esters

C08B 33/08 . Oxidised amylose

C08B 35/00 **Preparation of derivatives of amylopectin**

C08B 35/02 . Esters

C08B 35/04 . Ethers

C08B 35/06 . Ether-esters

C08B 35/08 . Oxidised amylopectin

C08B 37/00 **Preparation of polysaccharides not provided for in groups C08B 1/00 to C08B 35/00; Derivatives thereof** (cellulose D21; {microbiological processes C12P})

C08B 37/0003 . { General processes for their isolation or fractionation, e.g. purification or extraction from biomass}

C08B 37/0006 . { Homoglycans, i.e. polysaccharides having a main chain consisting of one single sugar, e.g. colominic acid}

C08B 37/0009 . . { alpha-D-Glucans, e.g. polydextrose, alternan, glycogen; (alpha-1,4)(alpha-1,6)-D-Glucans; (alpha-1,3)(alpha-1,4)-D-Glucans, e.g. isolichenan or nigeran; (alpha-1,4)-D-Glucans; (alpha-1,3)-D-Glucans, e.g. pseudonigeran; Derivatives thereof}

C08B 37/0012 . . . { Cyclodextrin (CD), e.g. cycle with 6 units (alpha), with 7 units (beta) and with 8 units (gamma), large-ring cyclodextrin or cycloamylose with 9 units or more;

Derivatives thereof}

C08B 37/0015 .... { Inclusion compounds, i.e. host-guest compounds, e.g. polyrotaxanes}

C08B 37/0018 ... { Pullulan, i.e. (alpha-1,4)(alpha-1,6)-D-glucan; Derivatives thereof}

C08B 37/0021 ... { Dextran, i.e. (alpha-1,4)-D-glucan; Derivatives thereof, e.g. Sephadex, i.e. crosslinked dextran}

C08B 37/0024 .. { beta-D-Glucans; (beta-1,3)-D-Glucans, e.g. paramylon, coriolan, sclerotan, pachyman, callose, scleroglucan, schizophyllan, laminaran, lentinan or curdlan; (beta-1,6)-D-Glucans, e.g. pustulan; (beta-1,4)-D-Glucans; (beta-1,3)(beta-1,4)-D-Glucans, e.g. lichenan; Derivatives thereof}

C08B 37/0027 ... {2-Acetamido-2-deoxy-beta-glucans; Derivatives thereof}

C08B 37/003 .... { Chitin, i.e. 2-acetamido-2-deoxy-(beta-1,4)-D-glucan or N-acetyl-beta-1,4-D-glucosamine; Chitosan i.e. deacetylated product of chitin or (beta-1,4)-D-glucosamine; Derivatives thereof}

C08B 37/0033 ... { Xanthan, i.e. D-glucose, D-mannose and D-glucuronic acid units, saubstituted with acetate and pyruvate, with a main chain of (beta-1,4)-D-glucose units; Derivatives thereof}

C08B 37/0036 .. {Galactans; Derivatives thereof}

C08B 37/0039 ... { Agar; Agarose, i.e. D-galactose, 3,6-anhydro-D-galactose, methylated, sulfated, e.g. from the red algae Gelidium and Gracilaria; Agaropectin; Derivatives thereof, e.g. Sepharose, i.e.crosslinked agarose}

C08B 37/0042 ... { Carragenan or carragen, i.e. D-galactose and 3,6-anhydro-D-galactose, both partially sulfated, e.g. from red algae Chondrus crispus or Gigantia stellata; kappa-Carragenan; iota-Carragenan; lambda-Carragenan; Derivatives thereof}

C08B 37/0045 .. { alpha-D-Galacturonans, e.g. methyl ester of (alpha-1,4)-linked D-galacturonic acid units, i.e. pectin, or hydrolysis product of methyl ester of alpha-1,4-linked D-galacturonic acid units, i.e. pectinic acid; Derivatives thereof}

C08B 37/0048 ... {Processes of extraction from organic materials}

C08B 37/0051 .. { beta-D-Fructofuranans, e.g. beta-2,6-D-fructofuranan, i.e. levan; Derivatives thereof}

C08B 37/0054 ... [N : Inulin, i.e. beta-2,1-D-fructofuranan; Derivatives thereof]

C08B 37/0057 .. { beta-D-Xylans, i.e. xylosaccharide, e.g. arabinoxylan, arabinofuronan, pentosans; (beta-1,3)(beta-1,4)-D-Xylans, e.g. rhodymenans; Hemicellulose; Derivatives thereof}

C08B 37/006 . { Heteroglycans, i.e. polysaccharides having more than one sugar residue in the main chain in either alternating or less regular sequence; Gellans; Succinoglycans; Arabinogalactans; Tragacanth or gum tragacanth or traganth from Astragalus; Gum Karaya from Sterculia urens; Gum Ghatti from Anogeissus latifolia; Derivatives thereof}

C08B 37/0063 .. { Glycosaminoglycans or mucopolysaccharides, e.g. keratan sulfate; Derivatives thereof, e.g. fucoidan}

C08B 37/0066 ... {Isolation or extraction of proteoglycans from organs}

C08B 37/0069 ... { Chondroitin-4-sulfate, i.e. chondroitin sulfate A ; Dermatan sulfate, i.e. chondroitin sulfate B or beta-heparin ; Chondroitin-6-sulfate, i.e. chondroitin sulfate C; Derivatives thereof}

C08B 37/0072 ... { Hyaluronic acid, i.e. HA or hyaluronan; Derivatives thereof, e.g. crosslinked hyaluronic acid (hylan) or hyaluronates}

C08B 37/0075 ... { Heparin; Heparan sulfate; Derivatives thereof, e.g. heparosan; Purification or extraction methods thereof}

C08B 37/0078 .... {Degradation products}

C08B 37/0081 . . . . {Reaction with amino acids, peptides, or proteins}

C08B 37/0084 . . { Guluromannuronans, e.g. alginic acid, i.e. D-mannuronic acid and D-guluronic acid units linked with alternating alpha- and beta-1,4-glycosidic bonds; Derivatives thereof, e.g. alginates}

C08B 37/0087 . . { Glucomannans or galactomannans; Tara or tara gum, i.e. D-mannose and D-galactose units, e.g. from Cesalpinia spinosa; Tamarind gum, i.e. D-galactose, D-glucose and D-xylose units, e.g. from Tamarindus indica; Gum Arabic, i.e. L-arabinose, L-rhamnose, D-galactose and D-glucuronic acid units, e.g. from Acacia Senegal or Acacia Seyal; Derivatives thereof}

C08B 37/009 . . . { Konjac gum or konjac mannan, i.e. beta-D-glucose and beta-D-mannose units linked by 1,4 bonds, e.g. from Amorphophallus species; Derivatives thereof}

C08B 37/0093 . . . { Locust bean gum, i.e. carob bean gum, with (beta-1,4)-D-mannose units in the main chain branched with D-galactose units in (alpha-1,6), e.g. from the seeds of carob tree or Ceratonia siliqua; Derivatives thereof}

C08B 37/0096 . . . { Guar, guar gum, guar flour, guaran, i.e. (beta-1,4) linked D-mannose units in the main chain branched with D-galactose units in (alpha-1,6), e.g. from Cyamopsis Tetragonolobus; Derivatives thereof}

C08B 37/12 . Agar-agar; Derivatives thereof (not used)

C08B 37/125 . . {Other polysaccharides of algae such as carragenan}(not used)

C08B 37/14 . Hemicellulose; Derivatives thereof (not used)

C08B 37/143 . . { composed by pentose units, e.g. xylose, xylan, pentosans, arabinose}(not used)

C08B 37/146 . . {composed by gluco and/or galactomannans, for example guar gum, locust bean gum}(not used)

C08B 37/18 . Reserve carbohydrates, e.g. glycogen, inulin, laminarin; Derivatives thereof (not used)